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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/065,714	11/13/2002	Chu-Ming Cheng	OTMP0028USA	4266

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EXAMINER

NGUYEN, MICHELLE P

ART UNIT	PAPER NUMBER
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2851

DATE MAILED: 06/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/065,714	Applicant(s) CHENG ET AL.	
	Examiner Michelle Nguyen	Art Unit 2851	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 November 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____. | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The disclosure is objected to because:
 - (a) In paragraph 0024, line 7, "anamorphic lens replaces the relay lens 29" should be --anamorphic lens is formed on a surface of the relay lens 29-- (see paragraph 0024, lines 1-2).
 - (b) In paragraph 0028, line 6, "flex" should be --flux--.
Appropriate correction is required.
2. Claims 1, 2, 9 and 12 are objected to because:
 - (a) In claim 1, line 1, "The system" should be --A system--.
 - (b) Claim 1 recites the limitation "the obliquely incident light" in line 6. There is insufficient antecedent basis for this limitation in the claim.
 - (c) In claim 2, line 2, "vale" should be --valve--.
 - (d) In claim 9, line 1, "The method" should be --A method--.
 - (e) In claim 12, line 2, "in predeterminate axis" should be --in a predetermined axis--.
 - (f) In claim 12, line 4, "to form non-overlapping" should be --to form a non-overlapping--.
Appropriate correction is required.

Drawings

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the following must be shown or the feature(s) canceled from the claim(s):

- (a) a light source
- (b) a projection lens
- (c) a light valve
- (d) an anamorphic surface unit
- (e) a mirror
- (f) a light spot

The structural details of and structural relationships between the features listed above as set forth in the claims must be illustrated. For example, an anamorphic surface unit must be shown as being formed on a surface of a reflector, converging lens, condenser lens, relay lens or mirror between a light source and a light valve. No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 7 and 11 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contain subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 7 recites the limitation "wherein the anamorphic surface unit is a reflector" in lines 1-2. However, it is understood from the disclosure that an anamorphic surface unit may be formed on a surface of a reflector, but is not actually a reflector (see paragraph 0023, lines 1-4).

Claim 11 recites the limitation "wherein the anamorphic surface unit is a reflecting surface" in lines 1-2. However, it is understood from the disclosure that an anamorphic surface unit may be formed on a surface of a reflecting surface, i.e. a mirror, but is not actually a reflecting surface (see paragraph 0023, lines 1-4).

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 9-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Method claims 9-12 do not recite steps. Instead, the method claims recite structural limitations of an apparatus. Therefore, it is not clear whether claims 9-12 are intended to be method claims or apparatus claims.

Please note: For the purposes of the rejections set forth below, examiner has treated claims 9-12 as apparatus claims.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1, 3-5 and 9 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,419,365 to Potekev et al.

With regard to claim 1, Potekev et al. disclose a system for improving asymmetric projection comprising:

a light source (inherent) producing a light beam (light 74) to form a light path (see Fig. 5);

a projection lens (projection lens 52) which is disposed in the light path and projects an image onto a screen (see Fig. 5);

a light valve (DMD 50) inserted in the light path between the light source and the projection lens, which selects and reflects the obliquely incident light beam to the projection lens or predetermined directions (see Col. 5, lines 40-4, Fig. 5); and

at least one anamorphic surface unit (nonrectangular output aperture 94) placed in the light path between the light source and the light valve (see Col. 2, lines 55-64, Col. 5, lines 44-50, 57-64, Fig. 5; Here examiner has used the following definition of Merriam-Webster's Collegiate Dictionary, 10th edition, for interpreting the term "anamorphic": producing, relating to, or marked by intentional distortion.).

With regard to claims 3-5, Potekev et al. teach system of claim 1, wherein the light valve is an LCOS, a DMD or an LCD panel (see Col. 5, lines 40-4, Col. 7, lines 17-19).

With regard to claim 9, Potekev et al. disclose a system for improving asymmetric projection, comprising:

a light source (inherent) for producing a light beam (light 74) to form a light path (see Fig. 5);

a light valve (DMD 50) for receiving the light beam with oblique incidence to generate a light spot with two asymmetric diagonals thereon (see Col. 5, lines 40-4, Fig. 5; Here it is understood that a light beam incident at an angle inherently generates a light spot with two asymmetric diagonals thereon.); and

at least one anamorphic surface unit (nonrectangular output aperture 94), in the light path between the light source and the light valve, having a curvature (inherent) for offsetting two asymmetric diagonals of the light spot into a more normal rectangle (see Col. 2, lines 55-64, Col. 5, lines 44-50, 57-64, Fig. 5; Here it is understood the output aperture distorts the image emerging therefrom.

Therefore, it is understood that the output aperture has a degree of magnification, and therefore a curvature, for distorting.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,442,414 to Janssen et al. in view of U.S. Patent No. 6,419,365 to Potekev et al.

With regard to claim 1, Janssen et al. disclose a system for improving asymmetric projection comprising:

a light source (projection lamp 50) producing a light beam (light beam 54) to form a light path (see Fig. 3);

a projection lens (projection lens 76) which is disposed in the light path and projects an image onto a screen (see Fig. 3); and

a light valve (DMD 20) inserted in the light path between the light source and the projection lens, which selects and reflects the obliquely incident light beam to the projection lens or predetermined directions (see Fig. 3).

Janssen et al. do not teach at least one anamorphic surface unit to be placed in the light path between the light source and the light valve. Instead, Janssen et al. teach an integrator (integrator 63) to be placed in the light path between the light source and

the light valve (see Fig. 3). However, Potekev et al. teach an integrator (light integrating tunnel 92) having an anamorphic surface unit (nonrectangular output aperture 94) for increasing brightness and brightness uniformity across a light valve (see Col. 5, lines 57-64, Fig. 5). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to replace the integrator of Janssen et al. with the integrator of Potekev et al. for increasing brightness and brightness uniformity across the light valve.

With regard to claim 2, Janssen et al. teach the system of claim 1, wherein a mirror (surface 74) is disposed in the light path between the light valve and the anamorphic surface unit (see Fig. 3).

12. Claims 6, 10 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,419,365 to Potekev et al. as applied to claims 1 and 9 above, respectively, and further in view of U.S. Patent No. 5,442,414 to Janssen et al.

With regard to claim 6, Potekev et al. do not teach the respective systems of claims 1 and 9, wherein the anamorphic surface unit is an anamorphic lens. Instead, Potekev et al. teach the anamorphic surface unit to be a surface of a light integrating tunnel for increasing the brightness of the system (see Col. 5, lines 57-64, Fig. 5). However, Janssen et al. teach employing an anamorphic lens for increasing the brightness of a system, thereby rendering anamorphic surfaces and lenses art-recognized equivalents with respect to function (see Col. 1, lines 65-8, Col. 5, lines 17-8). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to replace the anamorphic surface of Potekev et al. with

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the anamorphic lens of Janssen et al. for providing alternative means for increasing the brightness of the system.

With regard to claim 12, Potekev et al. do not teach the system of claim 9, wherein the anamorphic surface unit has a curvature in a predetermined axis for elongating the y-axial length of the light spot in on-state, flat-state, and off-state in order to form a non-overlapping elliptic light beam. Instead, Potekev et al. teach the anamorphic surface unit to have a curvature (inherent) in a predetermined axis for elongating the y-axial length of the light spot in on-state, flat-state, and off-state in order to form a non-overlapping beam in the shape of a parallelogram having acute included angles (see Col. 5, lines 50-56, Figs. 3-6). Here Potekev et al. employ a DMD as a light valve (see Col. 4, lines 57-9). However, Potekev et al. teach that the DMD may be replaced with an LCD (see Col. 7, lines 17-9). Janssen et al. teach that employment of an LCD requires the image reflected therefrom and projected onto a screen to be circularly symmetrical instead of rectangularly symmetrical as required by the employment of a DMD (See Col. 5, lines 27-35). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to fabricate the anamorphic surface unit of Potekev et al. such that it has a curvature for forming a non-overlapping elliptic light beam when employing an LCD for maximizing the brightness of the system.

13. Claims 7, 8 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,419,365 to Potekev et al. as applied to claims 1 and 9 above, respectively, and further in view of U.S. Patent No. 3,835,342 to Freeman.

With regard to claims 7, 8 and 11, Potekev et al. do not teach the respective systems of claims 1 and 9, wherein the anamorphic surface unit is a reflector. Instead, Potekev et al. teach the anamorphic surface unit to be a surface of a light integrating tunnel for increasing the brightness of the system (see Col. 5, lines 57-64, Fig. 5). However, Freeman teaches an anamorphic surface unit to be a reflector (reflector 14) for increasing the brightness of a system, thereby rendering anamorphic surfaces of a reflector and a light integrating tunnel art-recognized equivalents with respect to function (see Col. 4, lines 37-51, Figs. 5, 6). Therefore, it would have been obvious to one having ordinary skill in the art to replace the anamorphic surface unit of Potekev et al. with that of Freeman for providing an alternative means for increasing the brightness of a system.

Conclusion

14. The following prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

U.S. Patent No. 5,863,125 to Doany teaches an anamorphic condenser and an anamorphic relay lens for improving the illumination of an optical system.

U.S. Patent No. 6,517,210 to Peterson et al. teaches beam shaping optics for improving the illumination of an optical system.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michelle Nguyen whose telephone number is 703-305-2771. The examiner can normally be reached on M-F 8:30am-5:00pm.


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Russ Adams can be reached on 703-308-2847. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4900.

mpn
June 24, 2003


RUSSELL ADAMS
SUPERVISORY PATENT EXAMINER
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